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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,698	10/27/2000	Daniel J. Pugh	034560-051	6122
8791	7590	03/01/2004	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD, SEVENTH FLOOR LOS ANGELES, CA 90025			TSE, YOUNG TOI	
			ART UNIT	PAPER NUMBER
			2634	
DATE MAILED: 03/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/698,698

Applicant(s)

PUGH, DANIEL J.

Examiner

YOUNG T. TSE

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. See page 1, lines 7-10.

### ***Specification***

The disclosure is objected to because of the following informalities: on page 6, line 29, "Fig. 1" should be – Fig. 5 --; on page 7, line 18, Applicant is requested to clarify the differences of "S" and "0"; on page 11, lines 4 and 5, "114 steps" and "198" should be – steps 114 – and – 98 --, respectively; on page 13, lines 7-11, Applicant fails to discuss the block elements of Figs. 13-15 in order to enable a person skill in the art to understand the operation of the invention. For the formality of the application under the present office practice, applicant(s) is required to replace "Claims" with "I or We Claim", "The Invention Claimed Is" (or the equivalent) before the Claims part of the specification of the instant application. See MPEP 608.01(m). Appropriate correction is required.

***Claim Objections***

2. Claims 1-25 are objected to because of the following informalities:

In claim 1, line 3, "branch metrics" should be – the branch metrics --.

In claim 2, line 1, "is comprised of" should be – comprises --.

Wherein claims 3-12 are directly or indirectly depended upon claim 1.

In claim 13, line 2, "optimal path value" should be – the optimal path value --.

In claim 14, line 8, "a optimal path value" should be – an optimal path value --.

In claim 18, lines 1-2, "optimal path value update operates" should be – the optimal path value update operate --.

In claim 24, lines 1-2, "updating unit operates on" should be – update unit operates on the --.

Wherein claims 15-17, 19-23 and 25 are directly or indirectly depended upon claim 14.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 (lines 1 and 2); claim 5 (lines 2 and 3); claim 6 (line 2); claim 7 (line 1); claim 8 (line 1); claim 10 (line 1); claim 11 (line 1); claim 14 (lines 1 and 3); claim 17 (line 1); claim 20 (lines 1 and 2); and claim 25; the phrases “the Viterbi algorithm”, “the Viterbi trellis”, “the transmitted symbols”, “the new data”, “the optimal path”, “the old optimal path values”, “the updating of multiple states”, “the optimal path updating”, “the path metric update unit”, “the feedback operation”, and “the optimal update path fragment” all lack antecedent basis.

What is claim 8 depended upon?

Wherein claims 3-4, 9, 12-13, 15-16, 18-19 and 21-24 are directly or indirectly depended upon either claim 1 or claim 14.

***Allowable Subject Matter***

5. Claims 1-15 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

6. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to show or suggest that an improved method and apparatus which speed up the operation of a Viterbi algorithm using an optimal path value generator for each state in the trellis, the optimal path value indicating more than one transition of a selected trellis path. This optimal path value can then be used to determine the output in fewer steps than the conventional traceback to provide a selected optimal path value indicating the best estimate of the transmitted symbols.

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***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

References Wang et al., Hatakeyama, Yamanaka et al., Setlur et al., Mizuno et al., and Hemmati are related to traceback operation of a Viterbi algorithm for updating path values at each state for each transmitted symbol.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Young Tse** whose telephone number is **(703) 305-4736**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

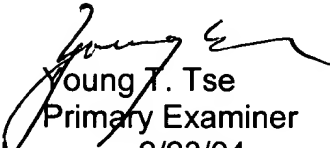
**or faxed to:**

**(703) 872-9306**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

  
Young T. Tse  
Primary Examiner  
2/23/04